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TO BEE-CULTURE.

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NO. 18.



"Thank God for the beautiful flowers
That blossom so sweetly and fair;
They garnish this strange life of ours
And brighten our paths every where!"

—Dexter Smith.

"The Elementary Principles of Money" is the title of a little 15-cent pamphlet which is well worthy of being read by everybody who wishes to know something about the financial question of the day. It contains statistics on gold and silver money, with quotations from laws passed on the subject. Clubbed with the BEE JOURNAL for one year for \$1.05.

Mrs. Atchley's School in bee-keeping begins again in this number of the BEE JOURNAL. Show it to those whom you would like to get as subscribers, and see how quickly they will decide to take the BEE JOURNAL right along, after knowing that Mrs. Atchley is going to describe her 20 years' successful experience with bees. This ought to bring in a great many new readers, who want to learn about keeping bees, from the very beginning. Be sure to urge all to commence with the "first lesson," as begun on page 556 of this issue.

Mr. E. S. Lovesy. our Utah correspondent, has very kindly sent us a small box of seeds, among them being lucerne (or alfalfa), sweet clover, and Rocky Mountain bee-plant. In the box was also a sample of Utah asphalt, crystal and rock salt, and specimen stalks of the alfalfa. We wish to thank Bro. Lovesy for his kindness in thus favoring us.

Since writing his "Notes," on page 434, he has received over 100 letters and postal cards, asking for samples of seed, as per his offer. On page 562 of this number of the BEE JOURNAL, will be found another article from Mr. Lovesy's pen, giving something further about lucerne, etc.

Back Numbers.—We have quite a good many odd numbers of the BEE JOURNAL on hand, running back for perhaps 10 years. We have had some enquiry for such back numbers, and have decided to let them go at *one cent per copy*, postpaid. Any new subscribers who would like to see such back copies of the BEE JOURNAL can send us any number of cents they wish, and we will mail them as many copies, all of different dates. Please say, when ordering, back of just what date you would like to have them.

Appreciates His Wife.—Dr. Miller honors his much "better half" by acknowledging in a "Straw" in *Gleanings* her wisdom and ability to rule. Verily, "straws show which way the wind blows," and here is one of them:

I took 10 colonies out of the cellar on March 17th. Weather kept beautiful for a week, but wife wouldn't let me take out more. Said I'd given strict orders not to

allow it; 24th, winter came again. Big snow storm, and about 10 degrees above zero every morning up to date, 30th. Glad I had a wife.

Of course the Doctor was "glad he had a wife," and more glad that he obeyed her. If men everywhere would consult their wives more, and then profit by the advice received, we dare say we'd hear less now-a-days of poverty and want in many American homes. Some women know more in a minute about some things than a man would learn in a whole day's thinking about it. Then, ten to one, her judgment would be the correct one, and his all wrong.

We feel sorry for the helpless and lone bachelor who must rely upon his own wisdom (?) in deciding important matters. Two heads are always better than one—especially when one of them is on the shoulders of a woman who is pure, and true, and noble—and she happens to be your good wife.

Yes, Doctor, there are lots of men who can join you in a grand chorus of thanksgiving—"Glad I had a wife!"

A Sample Crane Smoker has been sent to us by the manufacturer, A. I. Root, of Medina, Ohio. A fine illustration of it was given on page 508 of the BEE JOURNAL for April 19th. It is indeed a beauty, is well made, and should do all that its friends claim for it. In an article in *Gleanings* for April 15th, Bro. P. H. Elwood gives his experience with this smoker, and says until he finds a better one he will use no other. After telling of the superior merits of the "Crane," he closes with this sentence:

A good smoker is the most valuable implement in the apiary, and I have written this for the benefit of bee-keepers, and not for the benefit of the makers, who probably do not need the smoker trade as much as do some of their competitors.

St. Peter's Italian Bees.—Mr. Karl R. Mathey, gives the following paragraph in *Gleanings* for April 1st, about the bee-representations in St. Peter's Cathedral, in Rome:

One very often meets with bees in this great church, but not of course, living ones. They are molten, chiseled, and artistically painted. This arises from the fact that this great edifice was completed under Pope Urban VIII. This pope was from the noble family of the Barberini, of Florence; and

the insignia of this family, on their shield, was three bees. When the decorative work of this art-loving pope appeared in nearly every feature of this edifice, his coat of arms, the three bees, was caused to appear also, and so we have the spectacle of these busy workers in St. Peter's church.

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A Belgian Agriculturist, so an exchange says, planted at the beginning of spring two white-birch trees, and pruned them at the time when the sap was rising. The next day, from each opening flowed an abundance of liquid, and the trees were then surrounded by quantities of bees which gathered with delight the sweet water. This natural flow of water continued for several days, and the colonies of bees the whole time presented a great sight. Bee-keepers who have small trees are recommended to make incisions in the bark in the spring.

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Supplies for the Apiary—if not ordered already, should be secured at once. Nothing can be more annoying to the bee-keeper than to be compelled to wait for supplies at a time when delay may mean dollars to him. Decide now, as nearly as you may be able, just what you will likely need, and send to your dealer for the goods. You will find the advertisements of reliable dealers in every number of the BEE JOURNAL, and they will be glad to serve you. Don't miss getting a crop of honey by not having everything needed to take care of it, in case it does come to you.

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Heddon and Glucose Question.—In reply to what we published last week on this matter, as taken from *Gleanings*, Mr. Heddon wrote a long article to Bro. Root, which he has summed up briefly in the following editorial which appeared in *Gleanings* for April 15th:

As intimated in our last issue, we expected to give Mr. Heddon a chance to reply to our foot-note; but his reply, just at hand, takes five columns to our two. As it is out of the question for us to allow him so much space, we will endeavor to give the main points of his article as fairly and briefly as possible.

Mr. Heddon sends an affidavit from his son Charles, to the effect that he (Charles) personally took from the hives the Willard honey, and shipped it himself; and that, to his certain knowledge, all of said honey was free from adulteration. This is good so far as it goes; but, if we are correct, Mr.

Willard asked Mr. Heddon *himself* to furnish an affidavit that said honey was pure, but Mr. Heddon ignored the request—or, at least, Mr. Willard received no response. In answer to our inquiry regarding the honey shipped by Mr. Heddon in 1893, he says he never shipped any adulterated honey to any one.

Referring to the two cans of honey we have in our possession, he admits the genuineness of the tags, and that he has been in the habit of attaching them in that way; but, assuming that the tags, cans, and box, are his, he denies that the honey is adulterated; or, if adulterated, that it ever came from him. He says he sends us a sample of pure honey, and asks us to compare it with this in the cans. Of course, we expected that the sample would taste all right; and it is greatly superior to that in the cans.

As to the cheap honey, he refers to S. T. Fish & Co., as advertising honey from 4½ to 6 cents per pound, depending upon style of package and quality. In a letter just received from S. T. Fish & Co., they say that this 4½-cent honey is in barrels, and Southern stock at that, while the 6-cent honey is the finest product. Some time ago they wrote us that the honey market was very poor; and that, owing to the very hard times, they could not begin to realize anywhere near their old prices, and they were afraid they would have to make low offerings to dispose of what they had. But Mr. Heddon has been offering cheap honey for years back, and it was not Southern stock, either; nor were the times hard as now.

He refers to the test made by Prof. Cook on the chemists, where 50 samples were placed before them, some adulterated and some not, with glucose, and which the chemists recognized correctly in every case, as not being conclusive to him. He affirms that the test should be made by persons who should "lay aside all desire as to results." This is just exactly what *was* done. If they had any desire to show that the honey *was* adulterated, why did they not show those samples that were pure, as also adulterated? But, no; they correctly picked out the pure from the "doctored" samples. There was not and could not be the least prejudice in this instance.

Further, we call our readers to witness that Mr. Heddon said that nineteen-twentieths of his customers praised the honey he shipped them; and he (Heddon) offered to show us the "original manuscript" to prove it if we would publish it. The testimonials he sent were merely printed and numbered, with neither date nor name; and as Mr. Heddon had offered to furnish the original letters, proving all these testimonials to be genuine, we told him that we would publish them, or acknowledge their genuineness. Now, did he do it? We have read his 11-page article, now in hand, over carefully, but do not see any reference to it; and as to the "original manuscript" that he was to furnish, it has not yet made its appearance. Perhaps he overlooked it.

The rest of the article is concerned largely

in defense of his statements made at the Michigan State Convention; and as he has nothing new to offer, we do not refer to it except to mention that he says he did not defend the practice of mixing glucose. The essay was published in the AMERICAN BEE JOURNAL, and it speaks for itself.

Finally, we must say that we have no more room for further discussion of this matter. We certainly do not wish to do Mr. Heddon an injustice; we are seeking the truth, and the best good of the pursuit. It seems to us he has had enough space already; and unless there should be some very good reason, we should prefer to devote our space to other matters.

So far as the BEE JOURNAL is concerned, we can truly say with Bro. Root, that "We certainly do not wish to do Mr. Heddon an injustice; we are seeking the truth and the best good of the pursuit." We do not see any reason why any one would desire to do an injustice to Mr. Heddon. Either he did glucose or adulterate his honey, or else he did not. It only remained for him to prove his innocence, and that he should find no difficulty in doing, if not guilty.

Some may have looked upon this whole matter as a piece of persecution, but certainly so far as the BEE JOURNAL was concerned, there was no such thought entertained for a moment; and we don't believe that any such feeling prompted *Gleanings* to undertake the exposure.

We, also, regretted the seeming necessity to occupy so much space with this subject in these columns, but we felt it a duty to present the statements of both sides of the case to our readers, rather than to have those of our subscribers, who also take *Gleanings*, think that our "silence" on the matter really meant "consent" to a practice that we have so fearlessly and unmercifully fought in the past.

Some may wonder what benefit will have been gained after all the war of words is over. Well, we should think that if Mr. Heddon really had been adulterating honey he would now do so no more; and if he never did practice it, he has had a good chance to dispel the idea among some folks who believed he had been adulterating, and thus set himself right before them and the world.

Furthermore, it seems to us that this agitation can but result in good to the pursuit, as it shows the public that bee-keepers are as ready to denounce and expose one of their own number if found guilty, as they would a grocer or any one else who in-

dulges in the same nefarious practice. Only by defending the purity of their product at all hazards, can those engaged in honest honey-production hope to win the success that their sincere endeavors merit.

Let the consumers once know that bee-keepers themselves believe in "keeping still" about the adulteration of extracted honey (as a certain very few advocate), and it wouldn't be long before it would be utterly impossible to sell any of that kind of honey at all. We believe that bee-keepers can ruin the honey market in no other way faster than by "keeping still" and letting adulteration go on without vigorous protest, and exposure and prosecution of the criminals. The Bee-Keepers' Union should, of course, take an active part in putting a stop to honey adulteration, both in securing legislation against it, and then in enforcing it.

Bingham Honey - Knives. — On page 548 it will be seen that the prices on the Bingham & Hetherington Uncapping Knives have been greatly reduced. The prices on the Bingham Smokers remain about the same, though several big improvements have been made in them.

Hutchinson on Adulteration. — We have received the following from Bro. Hutchinson, in reply to our editorial of last week, which of course we are glad to publish:

Bro. York, can you allow me a few lines of space in which to make clear my views upon this vexing question? I am as much opposed to the adulteration of honey as any one can be. I am willing to do anything honorable to put a stop to the practice. I agree with you that prosecution would be exposure—I do not see how any other view could be taken, but it would be *something else in addition*, something that adulterators could appreciate, while simple exposure is something that they care very little about. I have no desire whatever to shield wrong-doers, but if we are exposing adulterators of honey simply for the sake of "exposing evil," let us expose, instead, some other and *greater* evil, and thus save the prejudice that must attach to our product from every exposure.

It is true that the Union had only the Wiley analysis of Mr. Heddon's honey a year ago, but the analysis of the Willard honey is only a repetition of the same kind of evidence, with the exception that the same chemist who made the analysis of the Willard honey also made an analysis of Mr. Jankovsky's honey, and he (Jan-

kovsky) had to suffer in consequence, and now another government chemist has pronounced the Jankovsky honey pure. If the Heddon case is stronger now than a year ago, why not lay the additional evidence before the Union? If the Union won't listen to, or act upon, what is considered sufficient evidence, then let us criticise the Union. It has a board of advisement before which important questions can be brought, and this board is composed of sensible men, and it seems that their decision ought to have some weight. As the case now stands, I think it is an injustice to Mr. Heddon that he is not prosecuted. Let the matter be investigated, and if any one is to blame because he has not been prosecuted, or because he is not *now*, let the blame rest where it belongs.

I am willing to join hands with any one in any course that has in it the semblance of a hope that will stop adulteration, but it is perfectly clear to my mind that a continuation of the present course of filling the air with words will accomplish *no good whatever*, while it will eventually lead to the ruination of the extracted honey market.

W. Z. HUTCHINSON.

Flint, Mich., April 26, 1894.

It is scarcely necessary for us to say more than we have already said on this subject. In former editorials we believe we have voiced the sentiments of an overwhelming majority of bee-keepers in the United States.

We believe the Union has had the "additional evidence" of the Willard "Heddon honey" placed before it. It could not help having it, if it has read the bee-papers lately, and especially the affidavit on page 457 of the BEE JOURNAL. We have not yet heard its decision on this later evidence.

Convention Notices.

WISCONSIN. — The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895.

Madison, Wis. J. W. VANCE, Cor. Sec.

ILLINOIS. — The spring meeting of the Northern Illinois Bee-Keepers' Association will be held at the home of Mr. Russell Marsh, in Guilford, Ill., on May 15, 1894.

New Milford, Ill. B. KENNEDY, Sec.

MICHIGAN. — The Central Michigan Bee-Keepers' Association will meet in convention in the Capitol building at Lansing, Mich., on May 9, 1894, at 9 o'clock, sharp. A good time is looked for.

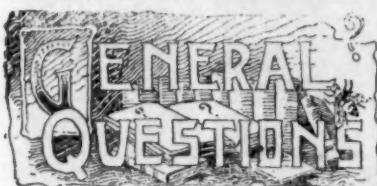
A. D. D. WOOD, Sec.

Lansing, Mich.

TENNESSEE. — The next annual meeting of the East Tennessee Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend.

H. F. COLEMAN, Sec.
Sneedville, Tenn.

Have You Read page 541 yet?



ANSWERED BY
DR. C. C. MILLER,
MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Old Foundation and Starters.

I have a quantity of foundation like the enclosed sample, which was made last season and kept over in a dark, cool place; also a quantity of sections with starters in, which the bees did not work on. Would you advise melting it up and taking the foundation out of the sections, or would the bees accept and work it out as it is?

Delhi, N. Y.

A. G. A.

ANSWER.—The sample of foundation is very nice, and I'm sure I couldn't tell it from fresh made. I shouldn't think of taking the starters out of the sections, but would use them just as they are. I use them every year, and this year I shall use some that have been in the sections more than one year.

Average Weight of Bees and Brood.

What should be the average weight of bees and brood, minus frames and combs, in No. 1 colonies about May 1st, considering early spring, etc.—in central New York?

EMPIRE STATE.

ANSWER.—I can only give a rough guess. Possibly 4 to 6 pounds; but if any one can tell with anything like certainty, I shall be glad to own up I don't know.

Why So Many Queens Lost?

On November 1st, 1893, I had 112 colonies of bees; Nov. 6th I noticed the bees were robbing one colony which was quite heavy with honey—the colony had evidently become queenless, and what bees were in the hive had no courage to fight and protect their stores; and since I put them out, I have found six more in the same condition, making seven in all.

Is it unusual for a number of queens to die during late fall and winter? If so, what was the cause? Five out of the seven

were colonies that sent out swarms in June, and of course had young queens. They were put into the cellar about Dec. 1st, and put out from March 9th to the 14th. The shrinkage in weight was from three to 15½ pounds.

The winter following the summer when my bees stored so much of that black stuff called "honey-dew," my losses were heavy, but generally my losses have been almost entirely from their becoming queenless, and sometimes I think I have more than my share from that cause. What do you think about it?

O. B. B.

Marshalltown, Iowa, March 31.

ANSWER.—I think 7 out of 112 is rather unusual. That's easier to say than to tell the cause. If you were not an experienced bee-keeper, I should ask whether some of the queens may not have been lost on their wedding flights. This kind of loss seems to be much worse in some places than others. If you are sure the five young queens all became good layers, I should say their loss was quite exceptional, and cannot give a healthy guess why it should occur.

Wheat Flour for Bees.

I have seen rye flour given to bees in spring. Will wheat flour injure them? I have given it to them two days, and they use a quantity of it.

A. J. F.

Winthrop, Iowa.

ANSWER.—No, wheat flour will not hurt them. However, it may not be best to give them so much that they will not use it up, for it will clog the combs up unnecessarily.

Sunshine on the Hives.

What time in the forenoon should the sun shine on the hives, and what time in the afternoon?

A. R. J.

Cambridge, Ill.

ANSWER.—In spring I suppose it is a good thing to have the sun shine on the hives all day long. In very hot weather they might better be in the shade all day long, or perhaps from 10 till 2. I like the shade of a tree, because it allows the sun to shine through before the leaves are fully out. I am not sure but I care more for shade on my account than for the sake of the bees. I don't believe the bees hate to be in the hot sun as much as I do.

Mixed Bees—Queen-Cells.

1. I have a colony of hybrids that show two bands, and this colony cast one after-swarm, and the queen produces some bees that show two, some one band, and some white, ashy-looking bees, different from any bees I ever saw. They are larger than any of my bees, and the young queen left in the old hive produces from the 3-banded Italian to the blackest of bees. What sort of drones did they meet?

2. The colony whose queen piped last summer, I examined in February, and there were 8 queen-cells started, looking as if started last year. There was a laying queen in the hive, and about three double handfuls of bees. Why were those queen-cells started? When do you think they were built?

M. W. G.

Bankston, Ala.

ANSWERS.—1. It would be hard to tell. Perhaps one of mixed blood.

2. In almost any hive that has been occupied a year or more, you will find these queen-cell cups. Without any seeming reason for it, the bees start a lot of queen-cells, and then go no farther than the start. They may be used some time in the future as queen-cells, and they may not.

Italianizing and Transferring.

1. I am a beginner in the handling of bees. My bees are the common blacks, and my hives the old-fashioned box-hives. I should like to change to Italians by introducing queens. Can it be done?

2. Can I successfully change my bees to movable-frame hives?

O. B. G.

Ft. Fairfield, Me.

ANSWERS.—Certainly; hundreds have done it successfully. Read up thoroughly in a good text-book, then go carefully to work. You will find full instructions in the books, and by the time you have the matter well studied, it will be time to transfer. Changing the queens may be done later.

Honey-Yielding Plants and Trees.

1. Is alfalfa a honey-plant? Also are sanfoin and Chinese hybrid catalpa honey-yielders? Which is best?

2. How many colonies of bees can work profitably on an acre of each of the above-named plants and trees? Also, how many colonies can work on an acre of alike?

Meadow, Wash.

Mrs. B. B.

ANSWERS.—1. Alfalfa and sanfoin are good honey-plants. In some places they rely almost wholly on alfalfa for the heavy crops they obtain. I don't know anything about Chinese hybrid catalpa. Probably alfalfa is the best of those you mention.

2. I don't know. And I'm afraid you'll never find out. The only thing I remember to have seen in the way of a definite statement as to what could be obtained by bees from a given territory was a statement by the lamented Quinby, that an acre of buckwheat would yield 25 pounds of honey in a day, but I don't know upon what data he based his assertion. But he didn't say how many bees it would take to gather the 25 pounds. Possibly three or four colonies would do it.

Farmer's New Guide—see page 517.



Profitable Bee-Keeping—Introduction

FRIENDS:—As promised, I shall now try in my poor, humble way to teach you how to manage your bees, to make them a source of profit to you. I am not wasting my time here under the shade of this live-oak tree, to try to tell you how to keep bees for pleasure only, but to explain to you, as best I can, and in as short a manner, *how* to manage bees to derive a profit; and to do this, I know of no way better than to begin at the foot, or first colony, and carry you clear through my 20 years of practical as well as profitable bee-keeping, as a successful honey-producer, as well as a successful queen-rearer. I am going to endeavor to give it all to you, as nearly as I can, from one colony to 1,000 colonies, and how I attained my success.

You probably know that I am the largest queen-breeder in the world today; now running over 1,500 nuclei, together with three out-yards of full colonies to supply my customers, and I shall try to interest you by telling how I manage all this business of queen-rearing. And now, as I have made both queen-rearing and honey-production a success for 20 years, I feel safe in asking you to follow me.

There are many patent hives and clap-traps that work well with no bees in them. There are many highly-polished and flowery theories that work well on paper—but not in the apiary. But what I am going to give you is *practical* experience, that works well and pays in the bee-yard.

Now, as I am sitting between two large colonies of Italian bees, and listening to their sweet and gentle hum this beautiful April day, with the birds singing, and all Nature smiling around me, I close this little preface, and begin with our work as follows. Now let us all give close attention.

BEES—DRONE, QUEEN, WORKER.

I will take it for granted that you all know what bees are, but I will describe the inmates of the hive clearly, so that you may better understand.

In the summer season there are three different kinds of bees that occupy the hive of a populous colony, namely: the queen, drones, and workers. (But usually at the close of the honey season the drones are killed or driven away from the stores of the hive to die.)

I will describe the drone first. This is the male bee, and for no other purpose than to fertilize the queens, with one little exception that I might here add, and that is, if there are several hundred of them in a hive after it has cast a swarm, or made weak from any other cause, the drones serve as a "stove" to keep up the proper heat on cool nights, which keeps the brood from suffering.

The drone is the largest bee in the hive. He wears coarse male attire, large broad wings, and can be distinguished by his size, shape, and by the coarse sound of his wings in the air. I think now you will be able to pick out the drones.

Next I will describe the queen. This name (queen) was given her before bee-keeping had advanced to a better understanding of the nature and habits of the wonderful bees. Her name proper is "mother-bee," as she is the mother of everything in the hive except herself, and some other (queen) mother-bee is her mother. This is the case where she has occupied the hive two or three months during the working season.

A queen may be the only mother-bee in the hive, and, after all, not be a mother-bee of anything. She may be a virgin, or a young queen from one to 15 days old, that has never mated with a drone, and will not become a mother of queens and workers until she mates with a drone, but she may lay, all her eggs producing drones. This I will explain further on.

The queen has a body resembling a wasp, except she is not so slim at her waist, and the slim joint that connects her foreparts to her hindparts is shorter than that of the wasp. Her wings are the same size, as nearly as I can judge, as the wings of a worker-bee. Her body is about one-third longer than a worker's body, and her face, head and legs are different. This gives her a different appearance from any other bee in the hive. She is often hard to find by an inexperienced person because one bee among so

many others is hard to find even if she does look differently, as there is only one queen in the hive, with some exceptions, which will be explained further on.

Now I believe, if you are going to make a bee-keeper, you can find the queen.

Last, least, and easily found and learned, are the workers. There are usually from 20,000 to 60,000 of these bees to a populous colony, so they are not hard to find, and with the little "thorns" in their tails, inexperienced bee-keepers sometimes quickly find out which is the worker and "bitter" bees, without any one telling them. But I will here say that the fear of bee-stings usually disappears when the nature and habits of the bees are known. You should bear in mind that you would be afraid of a horse, until you learned something of his nature and habits.

Now I have made known to you, as best I know how on paper, the three different kinds of bees that occupy a hive. I will now begin with you with a full colony of bees, as I cannot well teach you properly unless you have, or soon get, some bees. So I had better tell you how to get the bees, then go on with the manipulation, etc.

GETTING YOUR FIRST BEES.

If there is no practical bee-keeper in your neighborhood that has bees in movable-comb hives (I used the word "practical," as representing one using frame or movable-comb hives, for one cannot practice much unless the bees are on movable combs, as a person must see the inside of the hive to get much practice in bee-keeping), I would get a box-hive of bees, and transfer them into some hive that bee-keepers use who are making a success in producing honey—the Simplicity 8 or 10 frame hive, or any good hive that you can get the cheapest and handiest.

HAULING AND TRANSFERRING BEES.

I would get bees already in a movable-comb hive if I could, unless you wish the transferring experience, which you ought to have, and *must* have, to get along well, as no bee-keeper of long standing can get along without transferring some combs, as the contents of a hive may melt down, or be knocked over, etc., and it will *have* to be transferred. So I will start you out after a box-hive of bees. This you can engage of a neighbor, and have a time set to go for it; and if you do not wish any racket on the road, you had better load up and

haul the bees on some moonshiny night, until you gain more knowledge about bees, then you can move them at any time, which will be explained before we close.

Get a smoker—there are several good smokers on the market. Also get a bee-veil, but no gloves. I do not think I shall teach you to wear gloves to protect your hands from stings, as with a good smoker you can always keep the bees from stinging your hands much, but I am not going to teach you how to handle bees without getting stings, as really that is one part of the business.

When you get to your bees or box-hive, and you are ready to start home, smoke the bees gently at the hive-entrance until they have had time to fill themselves with honey, taking care not to use smoke more than they can stand, or they will rush out of the hive rather than go up. When you have smoked them, a small puff every few seconds for three to five minutes, pick up the hive and set it in the buggy or wagon, bottom up, and slowly drive home. You can keep the smoker lighted, and should the bees show any disposition to fly, give a little smoke, but usually, as soon as the wagon starts, they will quiet down.

If the bees are blacks or hybrids, it may be best to tie a cloth over the mouth of the hive. Further along I will tell you how to know they are blacks or hybrids.

When you arrive home, place the hive where you wish it to remain after they are transferred. Then in the morning, or when you are ready to transfer, get the new hive in readiness, and two thin boards a little larger than the frames, for transferring-boards. (For just one hive you can lay some boards down on the ground, but for a number it is best to have a table and a regular transferring-house.)

With an old hatchet or other tool cut the nails of the box-hive. It is best to lay the hive in such a manner so the combs will be edgewise, and the head of the hive the lowest. Then cut the nails and lift off the top side-board, and reach down and saw off the cross-sticks, if there are any, and I guess you will be sure to find them. Then pull down one other side of the hive—the side next to you. Then reach in and take hold of one cross stick and twist it back and forth a little, when it will slip out. Keep the bees smoked out of your way while you are at work.

Now with a table or butcher knife, cut out the combs—one at a time; lift

the combs by taking hold of the bottom end, as the top end is likely to be tender, and if with any honey it is the heaviest. Now hold each comb over the new hive, and brush the bees off the combs into it, laying the combs down in a pile on a board near by. Proceed until all the combs are removed in the same manner.

Now lay down one of the transferring-boards, lay on this an empty frame, then take up a comb and lay on the frame, and cut one or more pieces until it fits nicely in the frames. Then tack small, thin strips of wood across the comb from the top to the bottom bar of the frame in such a manner that the sticks will hold the comb straight in the frame.

Now lay the other transferring-board on top of all, and pick all up together, and turn it over, removing the first board, and tacking strips on this side as on the other. Then pick up the frame of comb and hang it in the new hive. Proceed until all combs that contain brood and honey are put in, leaving out the drone-comb, if you choose, unless it has honey in it, if so, better put it in, too, and when the bees use the honey you can remove it, or not, as you like.

Now place all frames straight in the new hive, put on the cover, shake all the bees off the old box in front of the new hive, when they will soon run in, and all is over, and you have a colony in a frame hive.

Now you have a good lesson, and are ready for the next. There are many ways to transfer that it would take too much space to tell—I give this plan so that you may not fail, as I have tried almost all plans, and this gives the best satisfaction, especially with beginners, as when bees are slow to fasten their combs to the frames, strings may be gnawed in two before the comb is fastened; and when the combs are heavy with brood and honey, any clasp that does not reach clear across the frame will let the combs bulge.

After you have become acquainted with the bees, you may devise some plan of your own, that is better, but I give this one so that you will not make a failure. You can remove the clamps or sticks when the combs are fastened to the frame.

About fruit-bloom is the best time to transfer.

JENNIE ATCHLEY.

(To be continued.)

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for \$1.40.



Swarming or No Swarming for Honey.

Query 921.—1. Other things being equal, which will give most surplus comb honey, a colony that never thinks of swarming, or a colony that swarms, counting the crop of both mother colony and swarm?

2. Which will give the most extracted?—Illinois.

1. It depends upon the season. 2. It is the same.—A. J. COOK.

1 and 2. The colony that swarms early in the season.—A. B. MASON.

1 and 2. A colony that swarms will give the most of both.—MRS. L. HARRISON.

1. On an average, the one that doesn't swarm. 2. Ditto as above.—J. M. HAMBAUGH.

1 and 2. The colony that "never thinks" of swarming, in both cases.—G. M. DOOLITTLE.

1. The one that does not swarm, if other things are equal, but generally they are not. 2. Ditto.—M. MAHIN.

1. We would take the colony that did not swarm, other things being equal. 2. The same for extracted.—DADANT & SON.

1. The colony that swarms, in case they do not leave the mother colony too weak. 2. The same can be said for extracted.—JAS. A. STONE.

1 and 2. Much depends in these questions, but generally the *best returns* will be given by the colony that doesn't swarm.—J. P. H. BROWN.

1 and 2. In this locality the "colony that never thinks of swarming." When honey comes later, the two colonies may be better.—P. H. ELWOOD.

1. The colony that swarms once—counting the product of both colonies. 2. I should expect the most extracted, as well as comb.—WILL M. BARNUM.

1 and 2. If the swarms are cast before the honey harvest opens, more honey would be obtained from the increased colonies.—MRS. J. N. HEATER.

1. This depends upon management and season, but generally the colony that does not swarm gets most *surplus comb honey*. 2. Doubtful.—J. H. LARABEE.

I can, in my locality, always get more honey from a colony that doesn't swarm, than from one that does. In a long honey season it would be different, or with a late flow.—H. D. CUTTING.

1. I usually get more honey from a colony that swarms once, than from such as "never think" of swarming at all. 2. I think the same would prove true of extracted.—C. H. DIBBERN.

I cannot say. I have never been able to tell what a colony of bees "thought." I can get more honey of any kind from the bees that swarm, whether they "think" much about it or not.—EMERSON T. ABBOTT.

1. That depends upon several things, especially the character of the honey-flow. Sometimes one, and sometimes the other. 2. The advantage is a little more apt to be with the one that swarms.—J. A. GREEN.

1. That depends. With me, the colony that never wants to swarm. With a long enough season, or a heavy fall flow, the colony and swarm might come out ahead. 2. The same rule holds as with comb.—C. C. MILLER.

1. It depends upon the length of the honey season, and the time when the swarm issues. With me, a colony that casts a swarm early gives more surplus than one of the same strength that does not swarm. 2. The same rule holds.—R. L. TAYLOR.

1. The colony that swarms, every time, in my experience. 2. If great care is used, and the colony doesn't attempt to swarm, the most extracted honey will be given by the non-swarming colony. I do the best by so-called "artificial swarming."—J. E. POND.

1. I do not know that bees think at all, but I get more honey from those that swarm in this perpetual flowering land, as I can get the progeny of two queens in the field against one when they do not swarm, or are not increased. 2. The same with extracted.—MRS. JENNIE ATCHLEY.

1. With the old way of management, and the hives in general use, the colony that does not swarm produces the most comb honey. There is no question about the old way—it is generally admitted if a colony is divided in any way in the midst of the harvest, unless the honey-flow is very prolonged, it will result in a

loss of honey. Every bee-keeper should read my new book on this subject. A colony may swarm, but not be allowed to divide up. A queen-trap may prevent it, or, in seven days after, the colony may be reunited. The claim is now freely made that the colony that swarms produces the most surplus comb honey, and also the finest. 2. That which is true in working for comb honey is also true in running for extracted.—G. L. TINKER.

1 and 2. This query needs a long answer, as so much depends upon a great many things. But I will just say that in a long, moderate flow, the two would give the most. But in a short heavy flow, the one would do the best, either of comb or extracted.—E. FRANCE.

1. That's a hard question, because I never could tell what they "think." In my experience, I don't find very much difference between one that swarms once and one that doesn't swarm at all, unless it be where the swarm is cast very early—then I believe the two will beat one.—EUGENE SECOR.

1 and 2. If all the surplus was to come from clover that had to be gathered in ten days or two weeks, as is frequently the case, I would take the chances on the non-swarmer; but with a good chance for clover, basswood, and a fall crop, I should say let them swarm, unless I was overstocked.—S. I. FREEBORN.

This question has been asked a great many times. It depends altogether upon the length of the honey season. In a short honey-flow, the colony that does not swarm will store considerable honey, while a colony that swarms in the midst of a short flow, may make a complete failure, both as to the swarm and parent colony. Taking one year with another, in my locality, I do not want swarms, because they are not profitable, except for increase.—G. W. DEMAREE.

A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the BEE JOURNAL. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for \$1.25 per copy; or clubbed with the BEE JOURNAL for one year—both for \$1.65.



Spring Work in the Apiary.

Written for the American Bee Journal
BY J. A. GREEN.

With the opening of spring the labors of the apiarist begin in earnest. The first warm days that come, allowing the bees to fly freely, bring with them the demand for attention. If the bees have been confined some time, care must be taken that the entrances are clear, so that the bees may fly freely.

A piece of wire, bent at right angles an inch or so from the end, makes a good tool for cleaning out the entrances.

I use under nearly all of my hives a rim two inches deep, so arranged that the entrance to the hive is at the top of the rim. This allows all dead bees to drop out from between the combs, and makes it impossible for the entrance to become choked up by dead bees. During the winter it is best to allow a large entrance. Mine are $1\frac{1}{2}$ inch, and are left open full width all winter. About the middle of March the entrance should be contracted to from $\frac{1}{2}$ -inch to 3 inches wide, according to the size of the colony.

If porous coverings have been used over the brood-chamber, they should be removed, unless the bees have had a chance to propolize them thoroughly, and replaced with sheets of enameled cloth or plain boards, well protected by packing, so that the warmth of the colony may not be wasted at the time it is most needed.

Now if you are sure that your colony has a good queen and plenty of honey, you may very profitably let it alone until the middle of May, or even later. Usually more harm than good is done by overhauling the brood-chamber early in the spring.

It is to be hoped that all your colonies lived through the winter. Probably some will be found dead. If the loss does not amount to more than 10 per cent., you may consider yourself fortunate.

When a hive is discovered in which the bees have died, the dead bees should be brushed from the combs, and out of the hive, as well as possible, and the hive closed up so that bees cannot get into it. If you have room in your honey-house, or in any other dry place where bees cannot go, it is better to arrange the combs so that there is a free circulation of air around them, as the honey is very apt to absorb moisture and deteriorate very rapidly if left shut up in hives out-of-doors at this season. This honey may be extracted, if desired, but often it is not of salable quality. Usually I prefer to feed it to the bees.

If any colonies are short of stores, combs of honey may be exchanged for those containing little or none, care being taken to disturb the arrangement of the brood-nest as little as possible. Honey that is not used is this way may be fed to the bees by being placed in hives out-of-doors, with the entrance contracted so that only one or two bees can pass at a time. In this way the honey will be carried off quietly, with no danger of robbing. I would wait until about the tenth of May for this, as I do not think it pays to stimulate brood-rearing too early in the season. If you have any box-hives, or any in which the combs are too crooked to remove, this is a good way to dispose of the honey.

After the combs are empty, they should be carefully looked over. If any of them have been injured in any way, such as by being gnawed by mice, or if they have patches of drone-comb, they should be trimmed out smoothly, and the holes filled with good worker-comb. It is not safe to leave the holes for the bees to fill with comb, as they will almost invariably fill them with drone-comb, unless they already have an abundance in the hive.

If combs are very crooked, they may be bent into shape or cut out and transferred so as to make straight combs. As a rule, I would not keep any combs in the brood-chamber that are not straight and even, as the perfect combs that may be had by the use of wired frames and full sheets of foundation are so much better in every way. For extracting combs, crooked and patched combs are as good as any, if properly handled, and for this purpose it pays to save and transfer all pieces of comb in good condition, that may be cut four or five inches square.

In a future article I will write of extracting-combs, and how to properly utilize scraps of comb.

Ottawa, Ill., April 12.

Something About the T Super.

Written for the American Bee Journal
BY DR. C. C. MILLER.

I received the following letter from Mr. S. Cornell about the middle of March:

LINDSAY, Ont., March 9, 1894.

DR. C. C. MILLER.—

Dear Sir:—I've been taking a full dose of T super. While I think of it, allow me to suggest that you take a file and cut a mark on that wire hook for taking out sections, instead of tying a string on it, or painting a mark on it. Has any one thought of turning the folds of the T tins downward? I don't see anything of that idea in the papers. Nail the T tins to the underside of the super, folds downward, and tack on pieces the depth of the folds on the lower side of the rim. This gives the bee-space below. The cover may have a rim $\frac{1}{4}$ inch deep tacked on to make a bee-space above the sections.

I feel inclined to ask you to make one in this way. One of the features of the present plan, which you will, I think, lose without regret, after trial, is the movable feature of the present T tins.

It is not much of a trick to make a "follower" to remove sections from wide frames, when no separators are used, but when they are used, it is more difficult. I have been using one for several years, which I saw in the workshop of Geo. Neighbour & Sons, of London. I have never seen anything about it in the bee-papers. I think I shall make a sketch, and send paper patterns to the Roots, as wide frames are their favorite section-holders.

By the way, I forgot to say that the separators for my suggested case must be made of $4\frac{1}{4}$ -inch stuff. Cut insets to correspond with the sections $\frac{3}{8}$ -inch deep. They must be made of tin, unless there is special machinery for taking them out, in wood, in right shape.

Do you know what number galvanized iron would be strong enough for the T's running lengthwise of the super? Do you use a follower? If not, have you any trouble in keeping the sections up to their place, so as to have the comb built within the frame of the sections?

Yours truly,
S. CORNEIL.

It is only a matter of reciprocity that Mr. Cornell was asking me about the T super. Something more than ten

years ago, at the time I made his acquaintance at the convention at Toronto, I first learned about T supers from our good friend D. A. Jones, but I never since could get him to tell where he learned about them. I have some doubts whether he knows.

Referring to the matter of the mark on that hook for drawing sections, a mark made with a file is much better than to have a string tied on, and I would have used it in the first place but for one reason. I didn't know enough.

Back now to the T super. I am not sure whether any one has used the T tins upside down. Different ones have fastened them to the super, but generally, I think, in the usual position. They may, however, have been used in the way Mr. Cornell suggests. Certainly they have been used with the bee-space at the bottom instead of the top. In the super Mr. Jones showed me the bee-space was at the bottom. A strip was nailed all around the inside of the bottom edge, and on this the T tins rested. He had also T tins to run lengthwise of the super, using either set of T tins in the same super. They were all made of the same tin, and I don't think tin of extra weight will be needed for the longer T tins, although I am not sure just what is the weight of tin needed. But quite light tin will be found to answer, I think.

I feel pretty sure it will not be liked, to have the bee-space changed from the top to the bottom. When the Roots first became interested in the T super, they were inclined to have the space as D. A. Jones had had it. I think the matter was fully discussed in back numbers of *Gleanings*, but I cannot refer now to the place. It is possible, however, that the discussion was not public. Be that as it may, they gave up, and I feel pretty sure the T super would never have attained so much popularity if the space had been below.

I may mention that one objection is, that it would take more time and care to adjust a cover with a rim, and nothing but the eye to guide in getting the rim at the right place. Also, that however carefully the super may be made so that the sections shall come flush with the top, it is hardly possible not to have some shrinking or swelling of the super, making the sections come a little above or below the edge, and then there's trouble in adjusting the cover, as well as an extra job of gluing for the bees. If, however, the hives have no bee-space at the top, that's an argument on the other side.

Having the T tins 't'other side up would allow the sections to come together square lengthwise, which they will not do as I use them without having little separators $\frac{1}{4}$ inch wide at the top. But having them solid together, as proposed, would make it very difficult to take out sections singly. This, however, is not very often needed.

I am not sure that Mr. Cornell had the right impression about the favorite section-holder of the Roots. It is practically a wide frame one section high, holding four sections, but without any top-bar. It needs no machinery to get the sections out of the frames, for you can just pick them out.

It may be a good thing to have separators $4\frac{1}{4}$, but are they really wanted of tin? I have settled that I never want a loose separator of tin, and that I never want a nailed separator of wood. A loose separator of tin will "shrink lengthwise," if I may use such an expression, thus making the tin curl into the section. There is no trouble in having insets in the wood separators. I've had them so.

Yes, for a few years I have used a follower, wedging up with a plain stick, and like it much. But I had no trouble having the comb built all right in the frame of the section without the follower. With the follower the separators are kept entirely straight in place.

Having used the T super for ten years, I am on the lookout for something better, but may never find it.

Marengo, Ill.

C. C. MILLER.

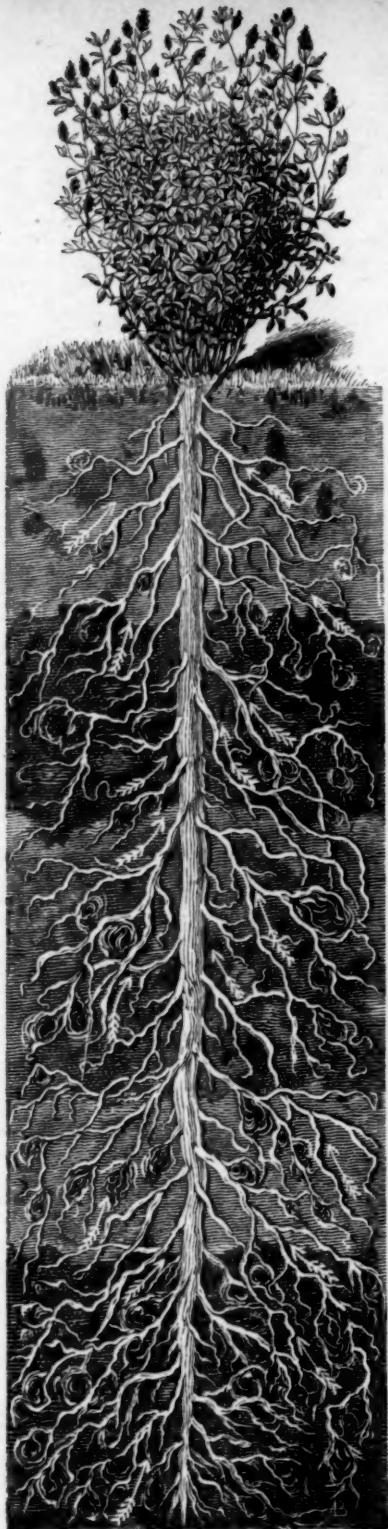
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EDITOR.]

Something More About Lucerne or Alfalfa

Written for the American Bee Journal

BY E. S. LOVESY.

Having been requested by a great many to more briefly describe the lucerne plant, I will try to comply, and also give a picture of it. The most of the questions asked relate to climate and soil,



the price of seed and amount per acre, and when and how to plant it. While I think it will grow nearly all over the United States, and some parts of Canada, it will grow faster in the central and southern parts. It has been introduced by Utah people into Wyoming, Idaho, Colorado, New Mexico, Arizona, and Old Mexico. In the last three places it grows very fast, so that they cut about four crops per annum.

It likes a rich and moderately dry, sandy loam—in fact, if there is not a large amount of rock or cement under the soil, it will go down to water. I have known the roots to go down over 12 feet here. Mr. Warner, an old subscriber of the *BEE JOURNAL*, who lives in Grand county, tells me that Grand river undermined a high, sandy bluff that lucerne grew on, so that it fell into the river, and they found some lucerne roots 30 feet below the surface.

One thing is certain, it will not grow much in very cold, wet soil. I have known people to plant it here in dry, warm soil, then by a system of irrigation the water would lie too near the surface, so that the lower roots would be in the water; in a case of this kind, they plow it under, cutting off the roots, and it will start up again, when the roots will go down until they get enough moisture, when they will stop.

To destroy it, they plow it off and harrow the ground, thus pulling the crown or top of the roots out of the ground.

It is a good fertilizer, and when plowed off, as I have stated, the soil is much better than it was prior to its being sown with the lucerne.

The best way to plant it is to plow the soil in the fall, and harrow the seed in as soon as the ground is dry enough to work, so as to get the spring snow or rain on it. Put in, in this way, 20 pounds of seed to the acre is enough. This is for the south or central part of the country; further north I would use 5 pounds more to the acre, and if planted late in the spring I would sow 30 pounds to the acre.

Sometimes it grows successfully planted in the fall, but if the plants come out of the ground in the fall or early spring, and are caught with a heavy frost, it will kill it; thus we see that the fall plowing and early spring planting is the safest. Of course, the farther south the earlier it should be planted.

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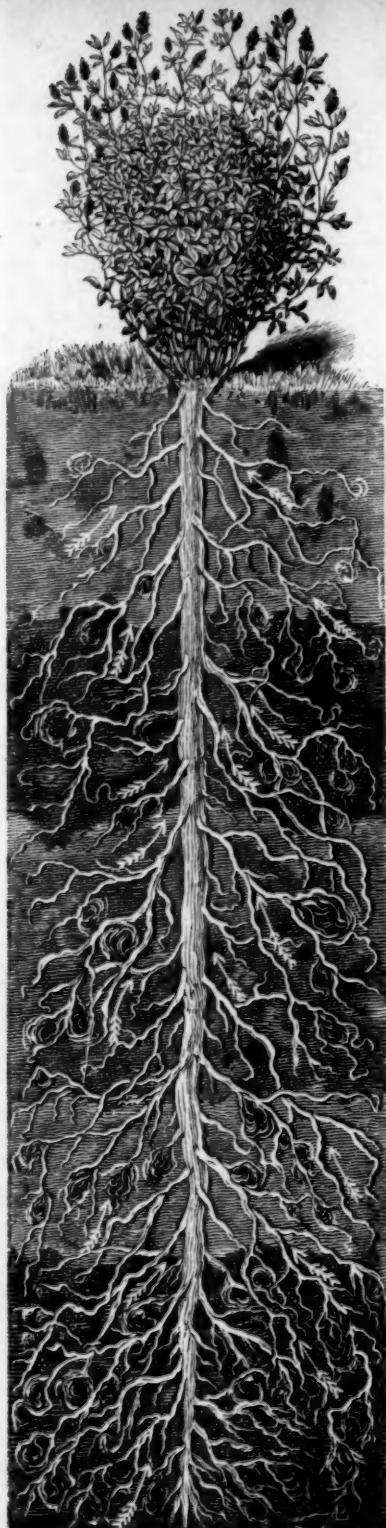
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else in Utah. It produces bigger crops, gives more and better milk than other hay, and horses will keep fat on lucerne alone, unless working very hard. It makes muscle as well as fat, is easily digested, and prevents hide-bound. A good and cheap way to raise pork is to feed the hogs on green lucerne and water all summer. Of course, if you have milk to throw away, throw it to the hogs. The best method is to have a good yard, giving them plenty of room; build enough warm and comfortable pens, then build racks in the yard—say a flat trough about 6 inches deep and 4 to 5 feet wide, any desirable length; build a V rack similar to a sheep-rack, in the center of it, in which place the green lucerne; finish fattening in the fall by giving them a little barley, rye or corn meal.

Hogs fed in this way make the pork firmer and better than other methods. At present it brings one cent per pound more in this market than other pork. The people here are working up to this industry now. They raise rye on high, dry land without water. Some turn the hogs into the field, but for destruction this would be about equal to putting the chickens to pick the strawberry crop.

A little lucerne is good for chickens. To make a good bee-pasture, commence to cut a part of the field just as it shows signs of blooming, leaving the other half for the bees, then cut alternately through the season. Some seasons the bees work in the lucerne more than others—it is the same with the other honey-plants. Sweet clover is one of the best.

I would say, for the information of any person not knowing, that lucerne and alfalfa are one and the same plant.

It is best, if possible, to get an even crop on the start. If it is thick on the ground, the stalks will be thin; you will get a little more hay or seed, but I think the hay is better when the stalks are less in number and more vigorous. So if all the seed fails to grow, if it comes up regularly, it will be all right. If the soil is foul, drill in the seed so that it can be kept clean until it gets a start, then as its growth is so rapid it will soon kill off everything else. For seed here we save the second crop.

One reason it is good for the South is, that it will stand much hot, dry weather. In speaking of the depth of the roots, I think about the average in ordinary soil is about 4 to 5 feet, and it grows $1\frac{1}{2}$ to 4 feet high. It is now 6 to 8 inches high here in some places. In the South it is about ready to cut. In spite of a

two-days' snow-storm, with a light frost, this is a green country now, with rows of poplars and green fields. Utah is far from being the desert she once was.

I think if we drew a line from Portland to New York city, on the north side of this line it would grow if planted by the 10th of May; up to this date it would do any place if the soil could be kept damp until the seed came up.

Many of our friends have sent letters and postal cards asking for the price of samples of the seed. I will try to send a little to all. If they wish to send stamps, whatever they think enough, it will be all right. We have lucerne seed on the market now, but no sweet clover or Rocky Mountain bee-plant seed. We will have some in the fall. Sweet clover seed is advertised for sale in the BEE JOURNAL.

Salt Lake City, Utah, April 16.

Nebraska Prospects Apicultural.

Written for the American Bee Journal

BY MRS. A. L. HALLENBECK.

I will try to tell of our prospects in apiculture here.

Last season was, for most of Nebraska bee-keepers, not anything to brag about. We had little honey until fall, and the dry weather cut off the crop somewhat short. Those who were alert and ready, had some fine surplus fall honey, and the bees plenty of stores for winter.

Cold weather came early, and our bees were put into winter quarters on Nov. 10th. Part are wintered on the summer stands, and the rest in a cave prepared for their accommodation. About Christmas all had a good flight, those in the cave being carried out to enjoy a cleansing flight and play-spell. At that time all were alive and in good condition (we had no very severe cold before that time), and we got them well packed away before our "tough spell" of the winter came in January.

The first of March found all except one colony ready to come out and make an appropriation of the balmy air and sunshine, which furnished them with house-cleaning facilities, and a little later (March 9th) brought out the blossoms on the soft maples. About three weeks of warm weather started brood-rearing in fine shape. A cold snap the latter part of March did not help matters much, but we carried the single-walled hives back into the cellar, so the

bees in them did not suffer much, and were ready to come out in grand style when the conditions were favorable again, about April 1st.

At present there are large numbers of young bees making their appearance for a play-spell on fine days, and plenty of brood that will hatch before May 1st.

In spite of the unfavorable prospects last fall, the winter has been much less severe than last year. The indications now are that the season will be a good one. Bees have plenty of stores to last them some time yet, and most of them are strong. The only thing now is to keep them strong by judicious feeding, if necessary, until the harvest comes. And while spring has come, bringing—

Warmth to the hearts chilled by winter so dreary,
Life to the earth that has slumbered so long,
Hope, that awakes with the bird-song so cheery,
Thankfulness swelling each heart of the throng
Of earth's happy tenants—birds, blossoms,
and bees—
Are we, God's immortal, less grateful than these?

Millard, Nebr., April 12.

Mating Queens at Will—Revolutions.

Written for the American Bee Journal
BY HON. EUGENE SECOR.

It appears to me that Bro. Russell (see page 470) is presuming a good deal on the credulity of bee-keepers, when he wants a pledge in advance of publication of any theory, no matter how plausible, on the possibility of mating queens at will. We have had so many "revolutions" in bee-keeping in the last ten years, that he will pardon some of us for not taking for granted every claim made in the "revolution" business. If we have many more "revolutions" in bee-keeping we old stagers will not know "where we are at."

We have hardly recovered from the effects of the non-swarming revolution, and now to boldly assert that some other man has a cinch on breeding queens with certainty, "and with much less fussing and trouble than other domesticated live stock," completely demoralizes us. If improvements keep coming at this rate—a revolution or two a year—we shall all get to be millionaires before we have learned how to spend the money!

I don't see as there is to be any element of uncertainty in our business hereafter.

Friend Wilson has taught us how

"Coming events cast their shadows before," or, in other words, how we may know in advance what our honey-yield is to be; Bro. Langdon has patented a device by which the bees are to be fooled into working all summer without even a swarming spree; and now some unknown friend is just about to give to the world—for a consideration—his method of marrying the queen to a pure-blood, pedigreed drone—an Italian Count, probably. I am really anxious to know how that's done, but it would seem to me that a name a little higher in the scroll of fame than Langstroth and Dzierzon would be compensation enough for the average bee-keeper—especially as he would with one-bound leap from obscurity to the highest place among the bee-keepers of the earth, according to Bro. Russell's estimate.

Can't he be induced to give his "formula," and trust to the same generous expressions that are shown toward the venerable Langstroth? If not, I fear the world will never see the promised "revolution."

"OUT OF THE DARKNESS, INTO THE LIGHT."

It must sound strange to some of our Southern friends to hear us say at this late date that we have just put our bees out. But it is a fact. I finished carrying mine out yesterday—wintered in the cellar under our dwelling, as usual. Length of confinement about five months. Never had them winter better. They appear to be strong in numbers, combs dry and bees free from disease. Loss about 6 per cent, and all of that traceable to want of inspection in the fall. The bee-apartment in the cellar was dry and well ventilated, but at times the temperature went as low as 36°.

In rebuilding, last year, I started the chimney in the bottom of the cellar, and built it large enough to admit of a ventilating flue with an opening in the cellar as well as on each floor above. I have also a sub-earth, 6-inch ventilating pipe opening into the cellar and running about 200 feet before it emerges. Hot water and warm air heater in adjoining room. Result: perfect ventilation. Cellar so dry that the hoops fall off the wash-tubs.

Novices often inquire why we leave our bees in the cellar so long after the snow is gone and mild days are somewhat frequent. I follow the practice because I want to conserve the strength of the colony. Until bees can get either honey or pollen from natural sources, it

is of no advantage to them to roam in barren fields.

The windy weather prevalent in early spring tends to decimate the colony when we need the warmth of great numbers to promote brood-rearing. If they are safely housed until there is something for them to do, robbing is also reduced to the minimum. Experience proves that bees will stand a long confinement under proper conditions—good food, pure air, and the right temperature.

Out of the darkness into the light,
Into the sunshine, out of the night.
Out of the prison-house, dark and drear,
Into God's freedom golden with cheer.
Into the perfume of Spring's promised flowers,
Out of the snow-banks into the showers.
Out of a restless longing for work
Into activity where only drones shirk.
Into a World that's waiting our "hum"
To teach that work may play become.

Forest City, Iowa, April 18.

Farmers as Bee-Keepers, Etc.

Written for the American Bee Journal

BY T. C. KELLY.

As another winter is about over (March 26), I see it is in order to report success in wintering our little pets. I have only lost two colonies out of 33 wintered on the summer stands; 29 of these are in excellent condition — better than we often get them by the first of May. I think prospects are good for the season.

I see on page 363, that J. R. S. (give your name in full; I will not challenge you to fight a duel) takes me to task for saying that "Farmers should not keep bees." Now I will modify my statement. If they would devote the time necessary to attend to the bees, then I would say, "Keep bees." But the man that thinks he can keep bees successfully without more time or attention than most farmers can give them, will find himself "left" in the spring, just as J. R. S. admits he is, proving my previous assertion correct.

If you have a bad season you must take time to feed your bees. The good farmer feeds his other stock, but most of them never think to feed the bees; but when he finds the bees dead, he attributes the loss to bad luck, or bad seasons. "Try again."

I make the entrance to my hives $5/16$ high and 11 inches long, and they are never troubled with mice.

Another proof: W. A. McGee, on page 365, says: 'I asked a man who has a few colonies, "How are they doing?" The answer was, "I don't know; I don't pay any attention to them; don't think they pay.'" But some people have an idea that because bees work for nothing and board themselves, they must be profitable. But they must have care, and you can't put it off till next week or next month.

Now, "Bro. Ben" (see page 372,), don't hit a fellow trapper too hard. You are not killing skunks now. But I see you have "been there." Because I did not enter into a detailed description of the trapping process, "be aisy." The common-sense that would deter a man from counting \$100 bills in a cyclone, ought to keep him from handling poison in the wind, with sore hands.

Brother Ben, you say farmers should produce all they eat. No farmer has ever done so, and never will. Nature was not "built that way." Did you ever stop to think of the dainties that find their way on the table of the good farmer (not the one that starves himself and family to hoard the almighty dollar) during the year? You can scarcely count them. If you had to raise all these things, there would be no time for the farmer to sleep, or rest either.

Bro. Ben, go to work and raise your coffee, tea, salt, sugar, all the foreign fruits, all your cereals, your honey, your beverages, not excluding a small portion of "Spts. Frumenti," for bee-stings. Life is too short.

Slippery Rock, Pa.

Methods of Introducing Queens.

Written for the American Bee Journal

BY ED. JOLLEY.

Few things are more discouraging to the beginner than the failure in introducing a queen to-day by the same method he was successful with yesterday. Few of us but know by experience the chagrin of a beginner on beholding the beautiful queen that but yesterday arrived from the Sunny Southland, and from which he was expecting so much, lying in front of the hive dead. Not that he is discouraged from the financial loss, but at the loss to know why he failed. It is a point upon which too little has been said for the benefit of the beginner.

All experienced bee-keepers know that different conditions of colonies require

different treatment to be successful at all times in having queens received. Little has been said by which the beginner may distinguish the different conditions, and thereby know how to meet them. In my experience, no colony is so stubborn about accepting a queen as one that has been hopelessly queenless for a few days, especially if the brood is all, or nearly all, hatched from the cells. We would naturally suppose a colony in this condition would be only too glad to get a queen. But in the majority of cases she will be balled and killed unless care and skill are combined in introducing. I think the reason of this difficulty is that during their utterly hopeless condition, a worker, better developed than the majority, has improved her opportunity by exercising a queenly influence, and would ultimately result in a laying worker; as a worker seldom lays until the colony has been hopelessly queenless for a considerable time, but they are there, and who knows what their influence might be.

The safest way to give a queen under these conditions is to confine the bees to the brood-chamber by placing a quilt on top and closing the entrance. Take a couple of sticks and drum on the hive until the bees have gorged themselves full of honey, then open the entrance and smoke them thoroughly to utterly subdue them, then shake the bees from the combs in front of the hive, and let the queen loose. She will go in with the bees, and will have become the same scent, and own the right of way before the bees have sufficiently recovered from their stupor to molest her.

For requeening there is no easier way than to remove the old queen in the evening, and introduce the following morning by laying the cage on top of the frames under the quilt.

The reason for not giving the new queen at the time the old one was taken away, is that when the bees find themselves queenless, they become very much excited, and are moving about very uneasily, as if in search of their queen. This search usually lasts about eight hours, and then they become reconciled to their loss, and do the next best thing by starting queen-cells. At this time there will be no trouble in introducing.

Again, we often have a valuable queen that we can't afford to take any chances on losing. I know of no better plan of introducing to a colony containing old bees than to place a couple of fruit-jar, or Hill, feeders on top of the brood-nest, and give them a half-pint of feed in the evening, and in the morn-

ing fill the feeders about half full, and lay the cage between them, first removing all the candy but just enough to keep the bees out a few minutes. I have never known a queen to be lost by this plan.

A great many practice giving a valuable queen to hatching brood; this is usually a safe plan, but I don't like it, because too much time is lost before the bees are old enough to get down to business. If it is done in the forepart of the season, they don't get built up until after the honey-flow; and if it is done in the afterpart of the season, they are very liable to go into winter quarters with very few young bees, and then you will have a case of spring dwindling the following spring.

The virgin queen is a hard queen to introduce outside the regular swarming season, but where it must be done it can be done safely by the feeder plan. But why let the queen hatch out before introducing? Would it not be better to give a cell, or a pulled queen? Although I have never tried a pulled queen, I see no reason why it is not an advantage over either the virgin queen or the cell. Because it is certainly easier than to give a virgin, and by giving a cell we often give inferior queens; and sometimes dead ones, whereby seeing the queen we know better what we are doing; besides, a queen at this age is invariably well received.

Franklin, Pa.

Florida vs. California.

Written for the American Bee Journal
BY DR. JESSE OREN.

Please permit me to reply to Mr. W. A. Pryal, of California—only this one time (See pages 433 and 282). My strictures were in reply to Dr. Gallup's over-drawn eulogy of California, as being "the best State in the Union." I made no objection to this, other than a change from "the best," to "one of the best." In that pleasantry to Dr. Gallup, I conceded too much, and claimed too little. Now, I like logic; but I cannot understand how Mr. Pryal jumps at his conclusions. He appears to me to be nervous, uneasy and fearful lest something I have said might injure California. Not so; California and Florida stand on their own merits, and neither of us can materially affect the destiny of either State by anything we can do, or say.

That the climate of Florida is warmer, more even, and better for the consumptive, and for those with low vitality, does not depend upon what I say, for support. I can refer to observations by U. S. Stations, and the authority of medical books, among which I cite Dunglison's work on Hygiene, etc. California has its winter rains, fog, and cold nights. Florida has dry winters and warm nights.

"California is diversified in everything," says Mr. Pryal, "you may live in a charming valley with roses, etc., and in half an hour you may be in a region where the *perpetual snows abound.*" We run from the North, to get away from the snows and cold winds of the winter. The hale and the strong may endure such strains on vitality, but the sick go under.

"Where is Florida alongside of the Golden State when it comes to grand mountain scenery?" Nowhere, certainly: we have no mountains—no mountain scenery, and don't want such useless wastes and disturbers of an equitable climate. The hale may climb the mountains and enjoy the views, but my interest is in the weak and the sick, for whom Florida is pre-eminently the better place in wintertime. A Mrs. H., of Cedar Falls, Iowa, came to Daytona this winter. She said, "Our Doctor said I could not live through another winter in Iowa. I told him I would go to California. No, said he, you are too feeble for the trip, and the cold nights will be too much for you." Said the Doctor, "Go to Florida and live, or go to California and die." This settled the matter. She came to Florida. But you say "comparisons are often odious." I believe it, too.

You say I am among the "alligators;" and I must reply, you are among the grizzly bears. Now there is just as much odium as well as truth in the one statement as in the other. I have been in Florida nine years, and have seen two alligators. How many grizzley bears have you seen? Your kind advice to me to "leave your sand-hills, death-dealing swamps, noxious insects, etc., and come out to this God-blessed land," is duly considered. We have no sand-hills. As to "death-dealing swamps"—why, man, don't you read any outside literature? Have you not heard of Hamilton Diston and his work in South Florida? Of the miles of canals and ditches he has dredged out, and the many thousands of acres of this drained swamp, richer and more fertile than the best sugar-land in Louisiana, and from

which are now annually harvested four hogsheads of sugar per acre, which is just double the quantity raised per acre in any other State? Do you not know that a late estimate gives Florida a greater sugar-producing power from these "swamps" than the present consumption of sugar in the United States? I know you have spent millions in California building canals to carry water to your deserts, and have made acres fertile thereby; but, my brother, why, don't you know that we have been just as busy dredging canals to drain our rich swamps?

You ought to know something about our great sugar works at Kissimmee City; about our canals draining Lake Tohopekaligee, Lake Kissimmee, Lake Cypress, and Lake Okeechobee, into the Caloosahachee river.

But our display at Chicago! No, we were "*not in it.*" You have me there. I, too, was ashamed of it. We did not use our power. We relied too much on the acknowledged "superiority of the sweet Florida orange." We feared no competitor then, and we feel none now. We were amazed at the wonderful display made in the interest of your real estate magnates at Chicago. Why, sir, your display company had a lady employed at a stand to sing the wonders of your land, whom I thought was worth \$5,000 per year to the company. I told the lady so, and she thanked me for it.

Once I saw on exhibition in Chicago, great ears of corn raised in the Western part of Kansas by a certain railroad company, and great promises made by the railroad company to prospective emigrants. Alas for results; God did not water the country, and man failed to do so.

Come to Florida, Bro. Pryal. Keep your money; we will board you free until you learn more of our "Italy of America."

Daytona, Florida.

"Foul Brood: Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the BEE JOURNAL. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for \$1.15. Orders received now.

Read our great offers on page 541.



Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Better Prospects this Year.

My bees are very busy every day we have a little sunshine. They have brood now, so they will be in good condition when the clover blooms. We have an earlier spring this year than last, so the prospects are better this year. My loss is about 10 per cent., but next winter I shall expect very little or no loss, as this year I had to experiment, and now have the experience.

G. D. LITTOOY.

Tacoma, Wash., April 16.

Unfavorable Weather for Bees.

The weather has been very unfavorable so far this spring for the bees. I lost one colony in wintering, and have 25 good strong ones yet.

ELMER H. BRIDENSTINE.
North Liberty, Iowa, April 23.

Prospects More Encouraging.

We were very much discouraged along in the last week in March, because of the cold snap that killed so much fruit, but we are having fair weather now, which has brought out fruit-bloom wonderfully. Cherries are not hurt in the least, some plums escaped the frost, and Jennet apples will be in bloom in a few days. Bees have suffered some, but are doing well now. I have lost none so far.

EDW. SMITH.
Carpenter, Ill., April 19.

Mr. Theilmann and the Pollen Theory.

On page 439, Mr. Theilmann, of Minnesota, says, "That pollen theory of Mr. Heddon's is all bosh." Now, as I understand Mr. Heddon on that subject, this sentence seems to me to be rather scathing. Mr. T. does not disprove the theory, so to give him a chance to try to do so, I would like to ask him two questions, viz.:

1. Can your bees produce brood and diarrhea without pollen (or bee-bread from whatever source) ?

2. Can your bees live for three weeks on pollen without getting the diarrhea ?

Let us give credit where it belongs. I think that 90 bee-keepers out of 100 will an-

swer a big NO to both questions, which, to my mind, if I am right, substantiates the pollen theory.

As Mr. Theilmann is a Northern bee-keeper, as well as myself, his items on temperature and cellar-wintering were interesting; and I for one shall be glad to hear from him again, especially if he will tell us some absolute prevention of our bees being affected with diarrhea, without removing the pollen.

W. HARMER.

Manistee, Mich.

Bees Wintered Well, Etc.

Bees wintered well in this part of West Virginia. I winter my bees in a bee-house. I took them out in good condition about the 10th of March, and had to put them back when Easter winter set in. There is but little interest given to bee-culture in this part of the country. People generally keep their bees in old log or box hives.

I am much interested in the AMERICAN BEE JOURNAL. If the people would read it, they would soon abandon the hollow-log bee-hive.

IRA SHOOKEY.

Long, W. Va., April 21.

"Hark Luck" in 1893.

We had a bad crop failure in this part of Nebraska last season, which makes it nip and tuck for many farmers, and other folks as well. Bee-keeping was a success last season—like farming. I started with five full colonies in the spring of 1893, made five 4-frame nuclei, which never filled up the hives, and fed them sugar syrup last fall, and yet lost two young swarms. I have 8 colonies yet out of 10. I fed them \$2.50 worth of granulated sugar made into syrup, and rye flour for pollen, and I hope they will stand it now until the wild plum, cherry, etc., bloom, of which I have quite a lot.

Last season I sowed rape (a very good honey-plant) in good time, but the first crop froze and died out. (The last part of April we had five heavy frosts in one week.) I sowed a second crop on the same ground, which died out; sowed a third time on another ground in August, which nearly dried out, but bloomed very little after the first frosts. I sowed buckwheat twice—the first was spoiled by hail, and the second dried up. From the 10 colonies I did not get a pound of surplus honey, while in 1892 I got from one colony 10 nuclei, one full swarm, and 50 pounds of honey.

G. BALLMER.

Gothenburg, Nebr., April 17.

Bee-Keeping in Alabama.

Having spent several weeks the past winter with some of the bee-keepers of Alabama and North Carolina, I wish to add a few words to Dr. Miller's excellent advice on page 439. I found bees gathering pollen freely in February in the southern part of the State, and breeding freely with the

prospect of soon gathering plenty for daily supplies. In March I found them working freely on the mountains in the northern part of the same State, and among the mountains of North Carolina, where I was stopping at the time of the great freeze the last week in March.

By the way, I have just had a letter from North Carolina, saying that the plum and cherry trees have bloomed again; also the strawberry vines, which were in bloom at the time of the freeze, and apparently destroyed. The thermometer registered 16 degrees where I was stopping.

At all the places I visited 8-frame hives were used, and Mr. Jenkins, of Wetumpka, finds the 8-frame hive the choice in the South. Although I have always used a 10-frame hive in New Hampshire, if I were going to the South to keep bees I should do as the rest do, and get 8-frame hives. I think they will hold stores enough there.

I was much pleased with my trip through Alabama, from Mobile to the extreme northern part of the State. A portion of the State is not favorable for bees, as the land is covered largely with pine forests.

J. L. HUBBARD.
Walpole, N. H., April 20.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.
May 9.—Central Michigan, at Lansing, Mich.
A. D. D. Wood, Sec., Lansing, Mich.
May 15.—Northern Illinois, at Guilford, Ill.
B. Kennedy, Sec., New Milford, Ill.
Aug. 16.—East Tennessee, at Whitesburg, Tenn.
H. F. Coleman, Sec., Sneedville, Tenn.
1895.
Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

Have You Read the wonderful Premium offer on page 549?

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.
Beeswax, 26@27c. H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.
Beeswax is in good demand at 23@25c. R. A. B. & Co.

CINCINNATI, O., April 18.—Demand is exceedingly slow for all kinds of honey. We quote 12@15c. for best white comb, and 4@8c for extracted honey. Arrivals and offerings far exceed the demand.

Beeswax is in good demand, at 22@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.
Beeswax, 20@22c. C.-M. C. Co.

BUFFALO, N. Y., Apr. 28.—The market is very quiet. Fancy comb, 13@14c.; choice, 11@12c.; buckwheat, 8@9c. Indications are that stock on hand will be closed out before new arrives. Beeswax, 25@58c. B. & Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Buffalo, N. Y.

BATTERSON & Co., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Great Premium on page 541!